

SECTION 03 15 00
CONCRETE ACCESSORIES

PART 1 –GENERAL

1.01 SECTION INCLUDES

- A. Joint fillers.
- B. Joint sealing compound.
- C. Elastomeric joint seals.
- D. Plastic pads, spacers, and fillers.

1.02 RELATED SECTIONS

- A. Waterstops are specified in Section 03 15 13, Waterstops.
- B. Elastomeric bearing pads are specified in Section 03 15 15, Elastomeric Bearing Pads.
- C. Elastomeric noise abatement seals at trackway acoustical barriers are specified in Section 03 40 00, Precast Concrete.
- D. Metal stair nosings, armor protection for concrete edges, metal anchors, inserts, sleeves, and various metal accessories related to cast-in-place concrete work are specified in Section 05 50 00, Metal Fabrications.
- E. Expansion and seismic control joints are specified in Section 07 95 00, Expansion Control.
- F. Calking and sealants related to the sealing of openings in walls and weatherproofing of station structures are specified in Section 07 90 00, Joint Protection.

1.03 MEASUREMENT AND PAYMENT

- A. Measurement: Concrete accessories will not be measured separately for payment.
- B. Payment: Concrete accessories will be paid for as part of the indicated Contract unit price or lump-sum price for the associated concrete or paving work as indicated in the Bid Schedule of the Bid Form.

1.04 REFERENCES**A. American Society for Testing and Materials (ASTM):**

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| 1. | ASTM C272/
C272M | Standard Test Method for Water Absorption of Core Materials for Sandwich Constructions |
| 2. | ASTM C578 | Standard Specification for Rigid, Cellular Polystyrene Thermal Insulation |
| 3. | ASTM C920 | Standard Specification for Elastomeric Joint Sealant |
| 4. | ASTM D994/
D994M | Standard Specification for Preformed Expansion Joint Filler for Concrete (Bituminous Type) |
| 5. | ASTM D6690 | Standard Specification for Joint and Crack Sealants, Hot-Applied, for Concrete and Asphalt Pavements |
| 6. | ASTM D1621 | Standard Test Method for Compressive Properties of Rigid Cellular Plastics |
| 7. | ASTM D1622/
D1622M | Standard Test Method for Apparent Density of Rigid Cellular Plastics |
| 8. | ASTM D1751 | Standard Specification for Preformed Expansion Joint Filler for Concrete Paving and Structural Construction (Nonextruding and Resilient Bituminous Types) |
| 9. | ASTM D2628 | Standard Specification for Preformed Polychloroprene Elastomeric Joint Seals for Concrete Pavements |
| 10. | ASTM D2835 | Standard Specification for Lubricant for Installation of Preformed Compression Seals in Concrete Pavements |
| 11. | ASTM D3542 | Standard Specification for Preformed Polychloroprene Elastomeric Joint Seals for Bridges |
| 12. | ASTM D4070 | Standard Specification for Adhesive Lubricant for Installation of Preformed Elastomeric Bridge Compression Seals in Concrete Structures |
| 13. | ASTM E84 | Standard Test Method for Surface Burning Characteristics of Building Materials |

1.05 SUBMITTALS

- A. General:** Refer to Section 01 33 00, Submittal Procedures, and Section 01 33 23, Shop Drawings, Product Data, and Samples, for submittal requirements and procedures.

- B. Shop Drawings: Submit drawings showing locations of all joints to be filled and sealed.
- C. Product Data: Submit manufacturers' product data of joint fillers, sealing compounds, elastomeric joint seals, and plastic materials, verifying compliance with specified requirements.
- D. Samples: Submit 12-inch long sample of joint filler and elastomeric joint seals and one pint can of sealing compound.

PART 2 –PRODUCTS

2.01 MATERIALS

- A. Joint Filler: Premolded, of sizes and thickness indicated, conforming to ASTM D994/D994M or ASTM D1751, as applicable.
 - 1. For structural joints and joints subject to movement, provide elastomeric joint seals conforming to ASTM D2628 or ASTM D3542, as applicable.
- B. Joint Sealing Compound: Concrete joint sealant, conforming to ASTM C920 (Type S or M, Grade NS, Class 25, Use T), ASTM D6690, as applicable, for sealing of expansion (isolation) and contraction (control) joints in slabs and at junctions of slabs and vertical surfaces.

Color of joint sealant shall be as selected by the Engineer from manufacturer's standards.

 - 1. For asphalt pavements, provide ASTM D6690 sealant only. For concrete pavements and roadways, provide ASTM C920 sealant.
- C. Elastomeric Joint Seals: Preformed solid or multi-web design, virgin crystallization-resistant polychloroprene (neoprene) conforming with ASTM D2628 or ASTM D3542, as applicable. Seals shall be designed to function in a compressed installation mode.
 - 1. Lubricant Adhesive: For concrete pavement, provide ASTM D2835 lubricant adhesive. For concrete structures, provide ASTM D4070 lubricant adhesive.
- D. Plastic Pads, Spacers, and Fillers: Extruded closed-cell polystyrene rigid board meeting requirements of ASTM C578, Type V, with the following physical properties:
 - 1. Minimum weight and density when tested in accordance with ASTM D1622/D1622M: 3.0 pounds per cubic foot.
 - 2. Minimum compressive strength when tested in accordance with ASTM D1621: 100 pounds per square inch.
 - 3. Maximum water absorption when tested in accordance with ASTM C272/C272M: 0.10 percent by volume.

4. Maximum allowable flame spread when tested in accordance with ASTM E84: 10 flame-spread index.

PART 3 – EXECUTION

3.01 EXAMINATION

- A. Verify that joint surfaces are dry to the extent necessary for successful sealant application and long service life as recommended by the sealant manufacturer.
- B. Verify also that ambient and concrete-surface temperatures and humidity are within the ranges recommended by the manufacturer for successful sealant application.

3.02 PREPARATION

- A. Thoroughly clean joints free of dirt, debris, dust, and laitance. Protect waterstops during cleaning.
- B. Joint surfaces shall be surface dry when seals are applied.
- C. Prime joint surfaces, where required, as recommended by the manufacturer of the joint sealing compound or elastomeric joint seal, as applicable.
- D. Mix multi-component sealing compound as recommended by the manufacturer.

3.03 INSTALLATION

- A. Installation/Application Requirements: Joint fillers and sealing compounds shall be installed in accordance with the respective manufacturers' installation and application instructions. Comply also with ASTM D6690, Appendix X1, for application of sealants, as applicable. Coordinate the placement of joint fillers and securing them in position with the work of Section 03 11 00, Concrete Formwork.
- B. Expansion (Isolation) Joints:
 1. Provide premolded joint filler to full depth of slabs, less 1/2 inch. Install joint filler with top edge 1/2 inch below the surface, and tool adjacent concrete edges to a 1/4-inch radius. Use steel pins to hold material in place during placing and floating of concrete. Finished joints shall be tight and leakproof.
 2. After a minimum of 28 Days after slabs have been placed and finished, fill expansion joints with joint sealing compound to 1/8 inch below surface of slabs. No traffic shall be permitted to travel over sealed joints until sealing compound has properly cured.
- C. Contraction (Control) Joints: Saw-cut contraction joints and weakened plane joints shall be filled with joint sealing compound in areas and locations indicated. Joints shall be filled and tooled flush to within 1/16 inch of the slab surface.

- D. Roadway and Bridge: Provide elastomeric joint seals as applicable to the conditions. Install as indicated and in accordance with the manufacturer's installation instructions and recommendations.
- E. Plastic Pads, Spacers, and Fillers: Install as indicated over or against clean surfaces. Apply adhesive where required to hold material in place.

END OF SECTION 03 15 00